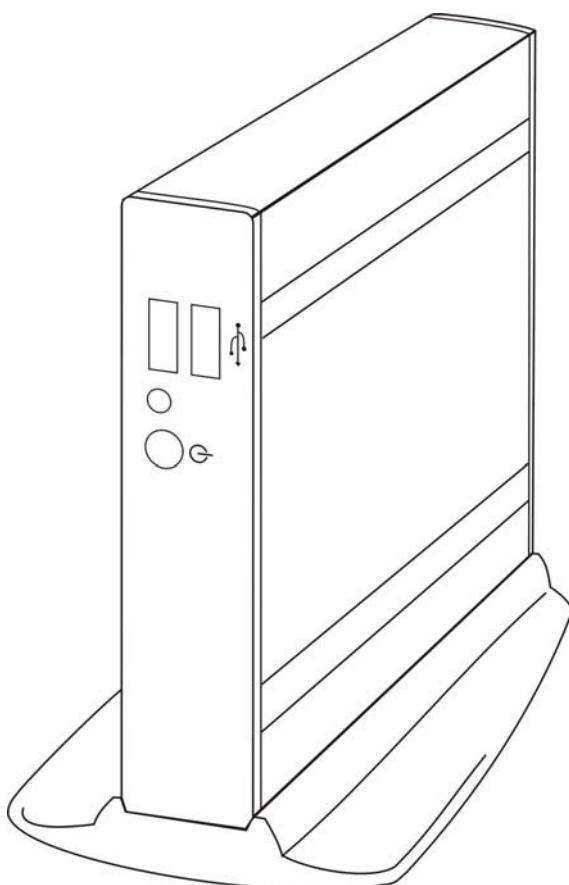


# TEMPEST USER MANUAL

## Bespoke for Laser Networks Inc



### **Manual Version 1.0a**

September 2007

©Tempest Installation Guide:®

Tempest Version 1.0a (bespoke Laser Networks inc)

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## Introduction to Tempest Print Appliance designed for Laser Networks inc

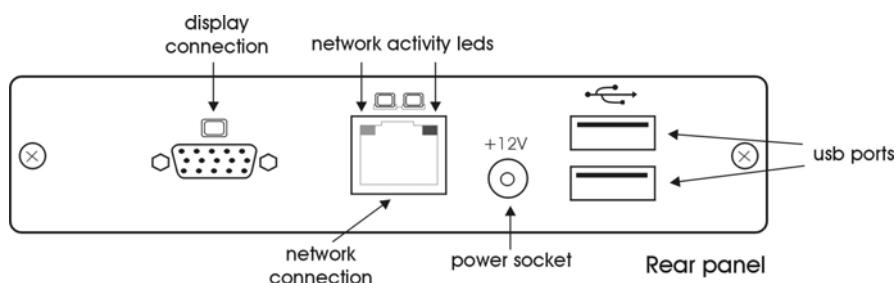
This version of Tempest is a multi-port print server/network bridge that is designed to operate in a specific manner and contains bespoke code that will only be guaranteed to operate if the correctly formatted data is sent to the unit using FTP. Using other forms of network transmission such as Lpr or Raw port printing may cause errors. Output paper bin selection and a licensed option of PDF archiving can be configured on a per queue basis.

The device can be licensed to print to a maximum of 4 local printers and up to 50 Network ready printers.

### Connection to the Network

The Tempest can be connected to any 10/100 Ethernet networks that support TCP/IP and FTP.

You will need one Ethernet RJ45 cable of the right type for your network configuration, also one or more USB printer cables. If you would like to connect to a parallel printer conversion cables USB/Parallel are readily available.

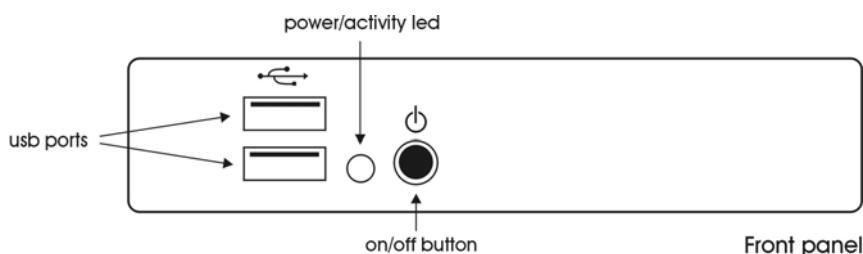


Connect the box to your network by plugging the relevant RJ45 cable into the network port on the back of the unit.

Plug in the power supply marked on the back of the unit. Turn the box on using the button on the front of the box. You should see the blue indicator light come on.

### Test and configuration page

**Note:** After you have connected the unit to a USB printer the Test and configuration page will be printed to **usb1** when the IP address of the unit is changed. Alternatively you can switch any USB printer connected to the box off and on and a Test and configuration page will be printed on that printer.



The unit comes with four USB output ports for this particular model. You can use one or all simultaneously depending how the box is licensed.

## USB Port Layout

USB Port 1 Rear Panel Top  
USB Port 2 Rear Panel Bottom  
USB Port 3 Front Panel Top  
USB Port 4 Front Panel Bottom

## Factory Default Settings

**Default Password = password**

The box can be configured from a built in Web page this can be accessed from a web browser on a network client.

**Note: The device will automatically search for a DHCP server for 30 seconds to obtain a network IP address, if it finds a DHCP server it will apply the supplied IP address and print a status page to USB1. If the unit does not find a DHCP server it will default to the static IP address of 192.0.0.192. This process repeats every time the box is powered on until a valid IP address is stored.**

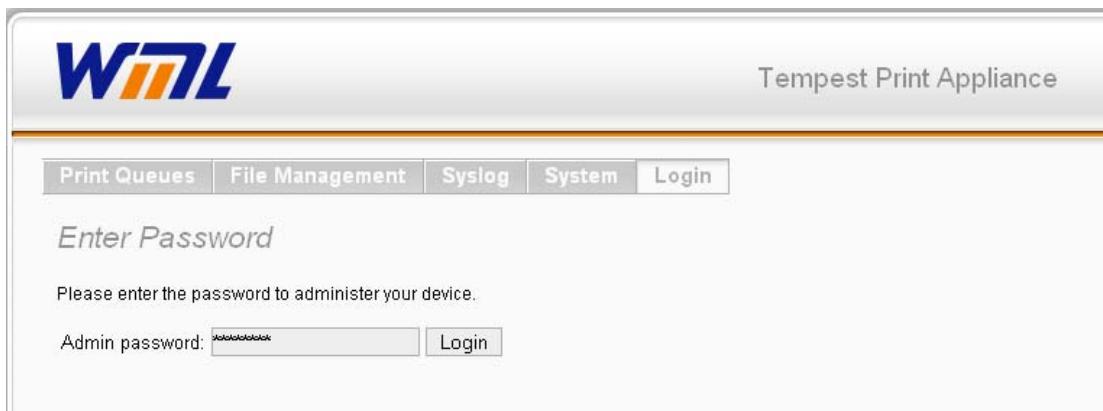
**To setup a static IP address the first time you use the Tempest DSM, initially connect to the box from a network client within the IP range 192.0.0.??? Once a valid IP address for your network has been set the unit will be available on the network.**

**Alternatively connect a monitor to the VGA port and plug in a USB keyboard into any of the USB Ports. After the Tempest DSM Unit has booted the User prompt will be displayed on the monitor. Log in to the unit with the username “admin” the default password is “password”. You will be prompted to set DHCP or input a static IP address and subnet mask. When the IP address is changed a status page is always printed on USB1.**

## Web Interface Administration

To access the Administration Web page of the unit type <http://192.0.0.192> this will display the password page of the web administration.

The default Admin password is “**password**”  
Type **password** into the Admin Password field and click on **Login**.



The Network setup Screen will be displayed when clicking the **System**/**Network** Tabs.

Print Queues | File Management | Syslog | System | Logout

Network | Time | Syslog | Licence Keys | Password | Settings | Firmware

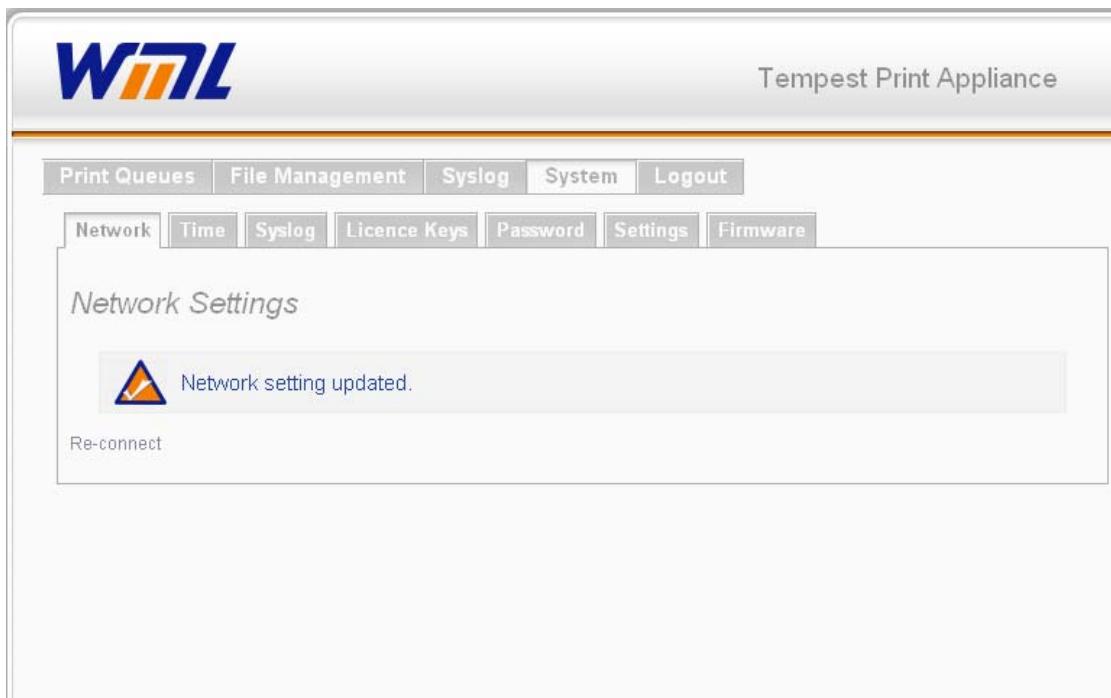
### Network Settings

<b>Network address</b>	<b>DNS settings</b>
<input type="checkbox"/> Use dhcp (numbers below will be ignored and you will need to manually re-direct your browser to the new IP address)	<input checked="" type="checkbox"/> Use DNS (if unchecked, numbers below will be ignored)
Hostname: <input type="text" value="tempest260408"/>	Primary DNS server: <input type="text" value="192.0.0.138"/>
IP Address: <input type="text" value="192.0.0.192"/>	Secondary DNS server: <input type="text"/>
Netmask: <input type="text" value="255.255.255.0"/>	DNS Domain: <input type="text"/>
Gateway: <input type="text" value="192.0.0.138"/>	DNS Search Order: <input type="text" value="lan"/>
<input type="button" value="Update settings"/> <input type="button" value="Update DNS"/>	

This screen will allow you to set the units IP address, Netmask and gateway where necessary. If you have a DNS server and wish to use printer names on your network this can be set from this page also.

**Note: If DHCP is selected and no DHCP server is found the unit will default back to the last configured static IP address.**

When you are happy with the settings, click the Update setting button. The following page will be displayed and a status page will be printed on the printer connected to USB1.



WML

Tempest Print Appliance

Print Queues File Management Syslog System Logout

Network Time Syslog Licence Keys Password Settings Firmware

*Network Settings*

 Network setting updated.

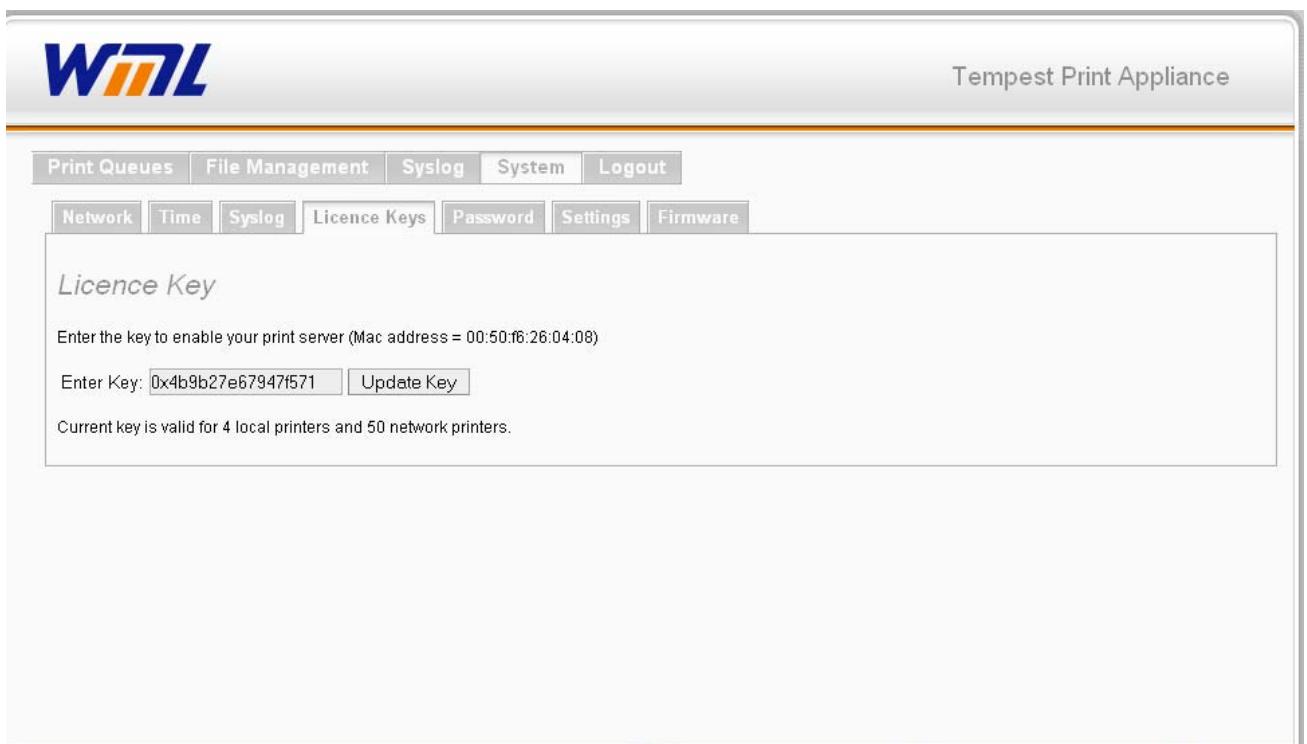
Re-connect

**Note: connecting a monitor to the display connection and a USB Keyboard to any USB port will allow you to login to the unit and set a static IP address or set the DHCP default.**

**Login: admin**

**Password: password**

## Licence Key Page



WML

Tempest Print Appliance

Print Queues File Management Syslog System Logout

Network Time Syslog Licence Keys Password Settings Firmware

*Licence Key*

Enter the key to enable your print server (Mac address = 00:50:f6:26:04:08)

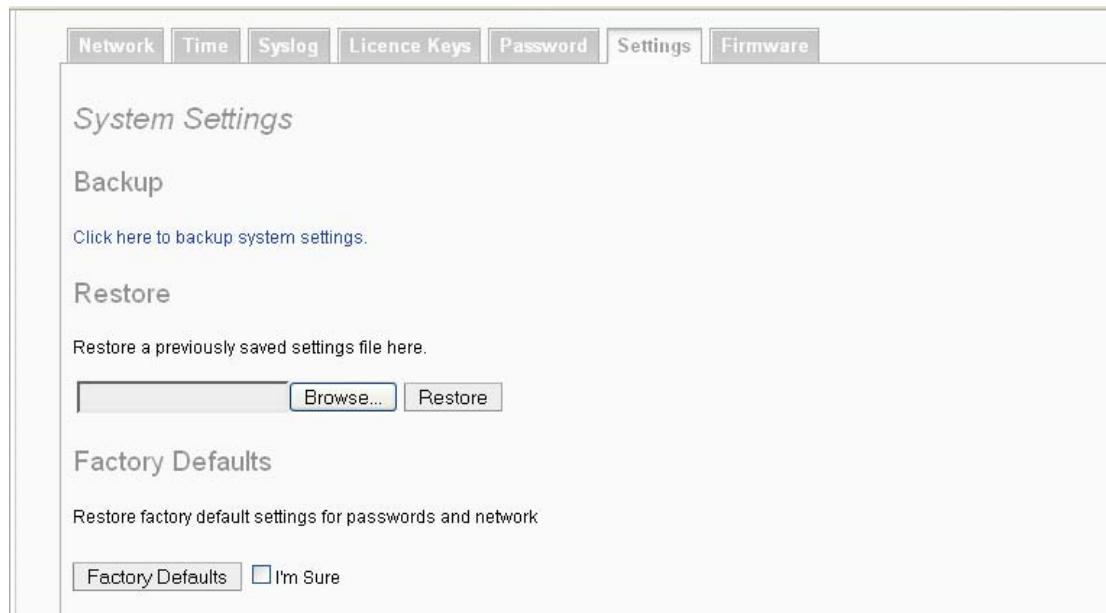
Enter Key:

Current key is valid for 4 local printers and 50 network printers.

From this page a user can define and update configuration Keys for the number of enabled ports. The number of printers enabled will be displayed in this case is 3 local USB ports and 45 network printers. If you need to add extra printers please contact WML or your distributor for a relevant valid Licence key.

**Note: Only install a valid Key that has been provided from WML or you may permanently disable the unit and invalidate any warranty.**

## Backing up the configuration: System/Settings

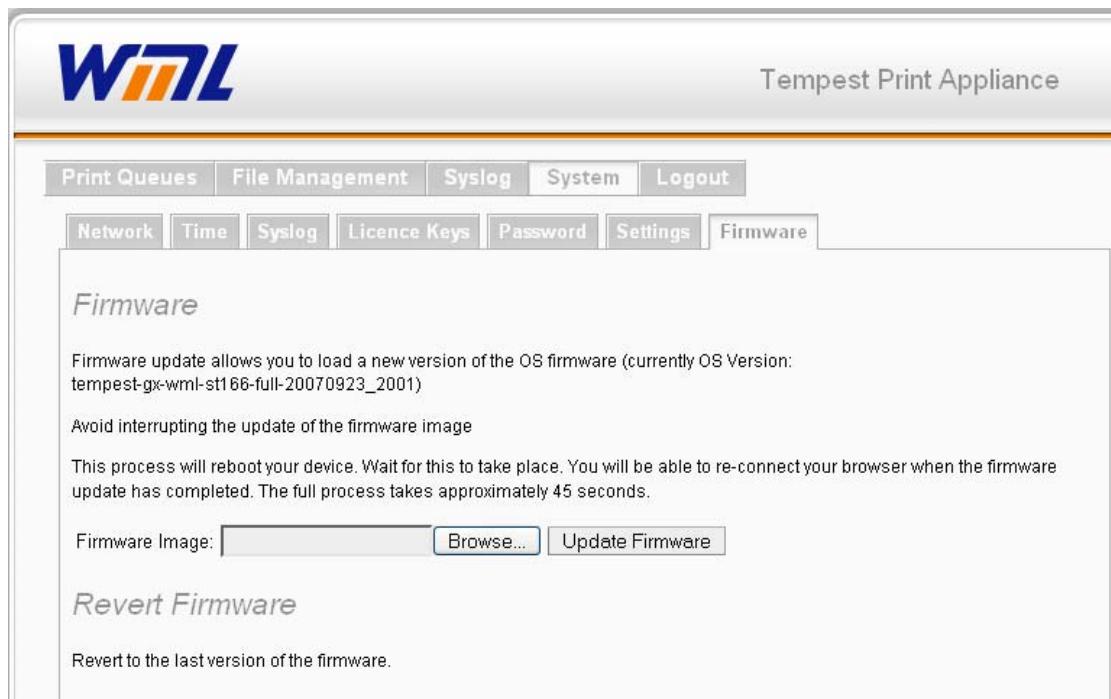


The screenshot shows a web-based configuration interface for a printer. At the top, there is a horizontal navigation bar with buttons for Network, Time, Syslog, Licence Keys, Password, Settings, and Firmware. Below this, the main content area is titled 'System Settings'. It contains two main sections: 'Backup' and 'Restore'. The 'Backup' section includes a link to 'Click here to backup system settings.' The 'Restore' section includes a link to 'Restore a previously saved settings file here.' Below these sections are two buttons: 'Browse...' and 'Restore'. The 'Restore' section also includes a 'Factory Defaults' link and a checkbox labeled 'I'm Sure'.

From this page you can backup and restore the units queue configuration including all fonts, Forms, Macro information and ini files. It is always worth keeping a valid configuration backup so you can restore the exact configuration setup on another unit if required.

**Note: Your key will be backed up, but will not be restored if you restore to a completely new unit. It is always worth while to cut and paste the key into say a word document and keep this document safe in case you over type or destroy your key.**

## Firmware Upload: System/Firmware



The screenshot shows the WML (William Matthew Limited) web interface for managing a Tempest Print Appliance. The top navigation bar includes links for Print Queues, File Management, Syslog, System, Logout, Network, Time, Syslog, Licence Keys, Password, Settings, and Firmware. The main content area is titled 'Firmware' and contains the following text:

Firmware update allows you to load a new version of the OS firmware (currently OS Version: tempest-gx-wml-st166-full-20070923\_2001)

Avoid interrupting the update of the firmware image

This process will reboot your device. Wait for this to take place. You will be able to re-connect your browser when the firmware update has completed. The full process takes approximately 45 seconds.

Firmware Image:

*Revert Firmware*

Revert to the last version of the firmware.

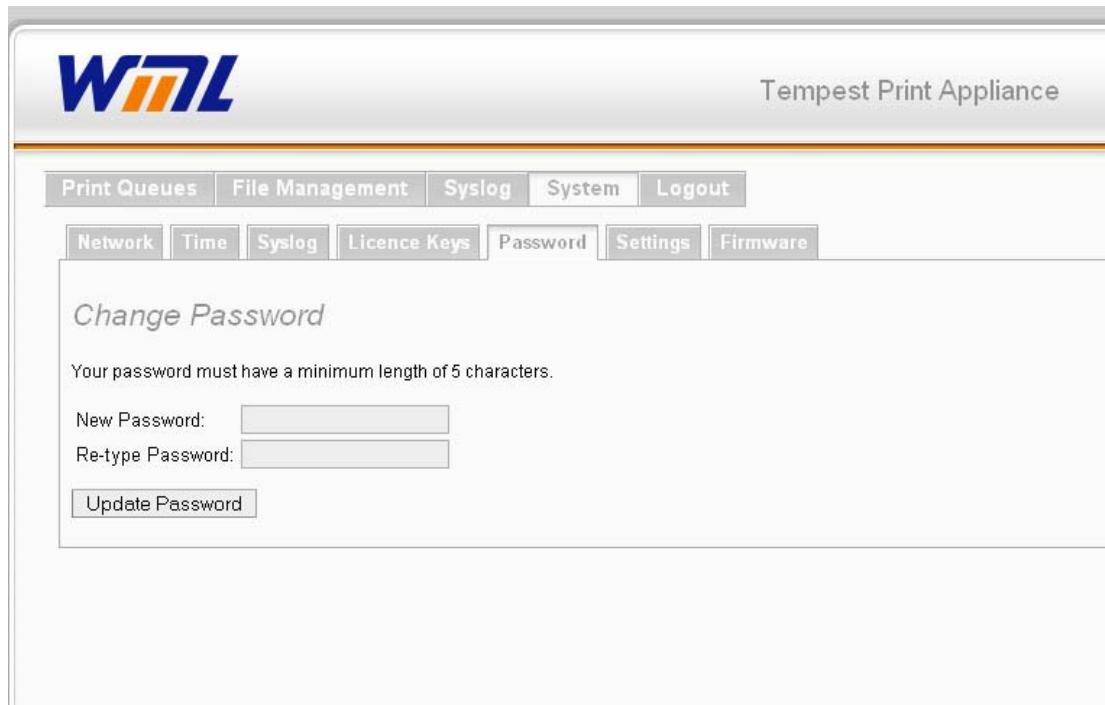
From time to time WML will release upgrades or later revisions of the firmware. This can be updated from this page. The user can browse the network and open the required update file, much as you would do from any Windows system. Press the Update firmware button and the box will automatically update and reboot. This may take up to 45 seconds and you may have to log into the Web page after an update has been completed.

Also on this page there is a Revert Firmware button, which will allow the user to revert to the last, known working Firmware.

**Note: When updating from another Tempest product you must reset the unit's factory defaults to create the correct default-operating environment.**

**Note: Uploading the same Firmware twice will mean that you will lose the previous version of the Firmware.**

## Changing the Admin System password: System/Password

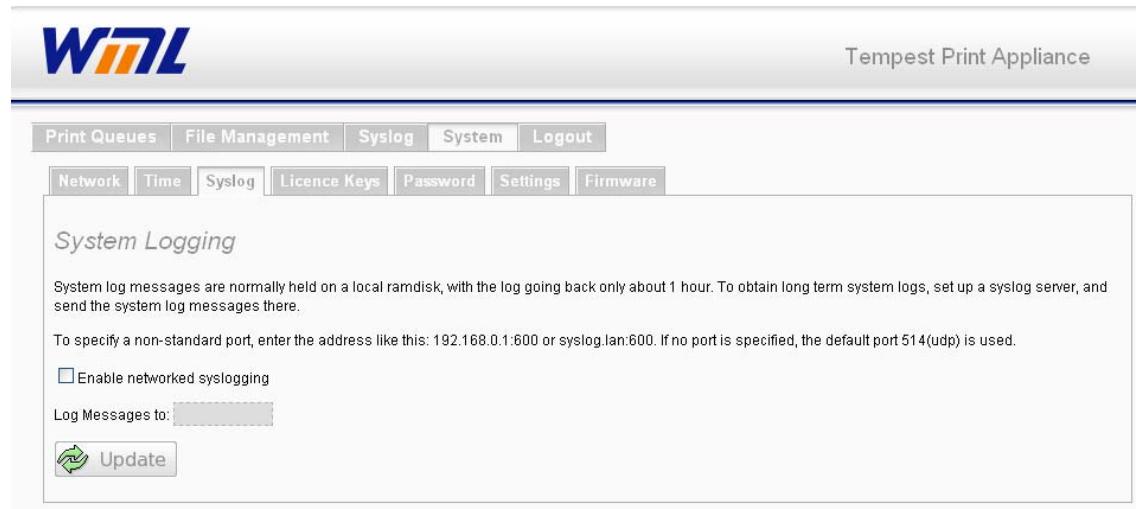


The screenshot shows a web-based interface for a 'Tempest Print Appliance'. The top navigation bar includes links for 'Print Queues', 'File Management', 'Syslog', 'System', and 'Logout'. Below this, a secondary navigation bar includes 'Network', 'Time', 'Syslog', 'Licence Keys', **Password** (which is the active tab), 'Settings', and 'Firmware'. The main content area is titled 'Change Password' and contains the following text: 'Your password must have a minimum length of 5 characters.' Below this are two input fields: 'New Password' and 'Re-type Password'. At the bottom of the form is a single button labeled 'Update Password'.

To change the default password (Password) to something more secure use the update fields on the System/passwords page. Clicking Update password will store the new password so **make a note of it for future use**.

## Time and Syslog : System/Time , System/Syslog

You may need a complete log of all the processed jobs that have passed through the Tempest DSM in order to do this you will need a syslog server on your network. To point the syslog data generated from the unit to this server input the servers IP address and enable logging. Click Update to save the settings.



Print Queues File Management Syslog System Logout

Network Time Syslog Licence Keys Password Settings Firmware

*System Logging*

System log messages are normally held on a local ramdisk, with the log going back only about 1 hour. To obtain long term system logs, set up a syslog server, and send the system log messages there.

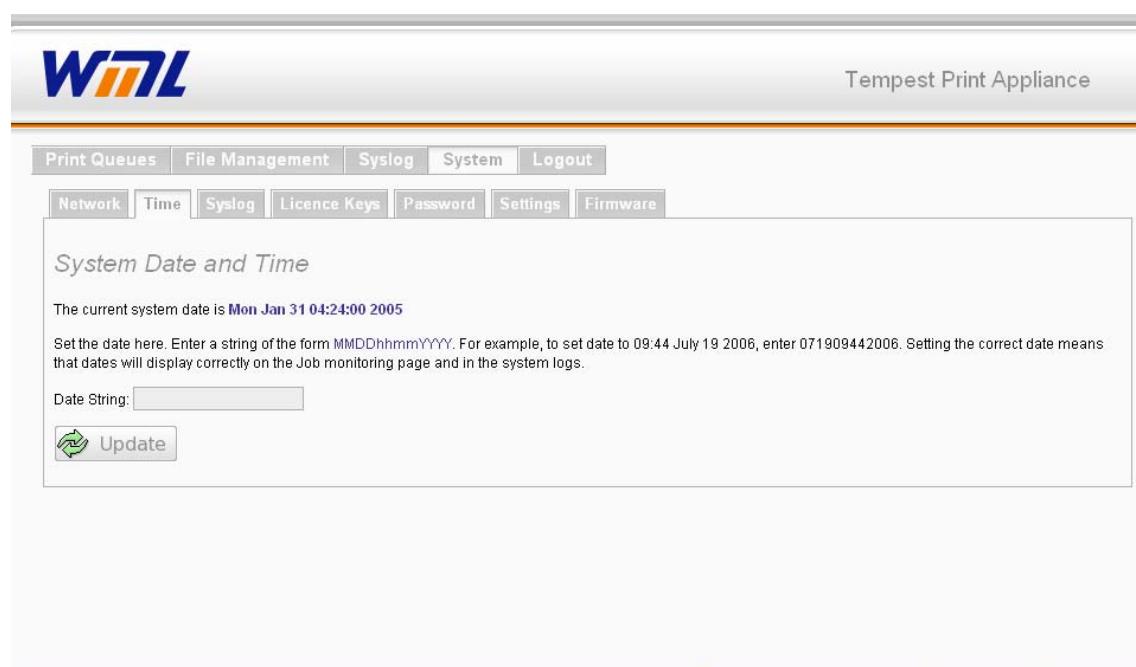
To specify a non-standard port, enter the address like this: 192.168.0.1:600 or syslog.lan:600. If no port is specified, the default port 514(udp) is used.

Enable networked syslogging

Log Messages to:

Update

To correctly time stamp the Syslog data set the Date and Time on the System/Time page. Click update to save the setting.



Print Queues File Management Syslog System Logout

Network Time Syslog Licence Keys Password Settings Firmware

*System Date and Time*

The current system date is **Mon Jan 31 04:24:00 2005**

Set the date here. Enter a string of the form **MMDDhhmmYYYY**. For example, to set date to 09:44 July 19 2006, enter **071909442006**. Setting the correct date means that dates will display correctly on the Job monitoring page and in the system logs.

Date String:

Update

## Setting up Local and Network Printers: Print Queues

The Tempest depending on how the unit is licensed can accept FTP data of the correct form to produce a date stamped output document. Other information such as IP address of the sending data is also hard coded into the output.

Select the Print Queues page on the web interface, from this page you can manage the network bridging and drilling down into the queue the output bin selection for that queue.



Queue Name and Alias	Input Port	Duplicate Input To	Printer Type	Location	Network Name or Address	Output Protocol (LPD/raw)	Output Port/LPD Queue	Status	Action	Select
net1/test1	9111	None	HP MFP	pharmacy	192.0.0.45	raw	9100	ready	  	<input type="checkbox"/>
Add net2	9112					lpd	passthru			

**Queue Name and Alias Queue Name:** The FTP output folder is defined by default by the first field in the example shown above that net1 the user editable field below allows the user define an alternative name for the output folder, in this case it's test1.

In order to save the setting please click action update 

**Printer Type and Location fields:** These fields are purely descriptive and can be used for

information on where the printer is located for example: **HP MFP, pharmacy** Use the  button to store any changes to this page.

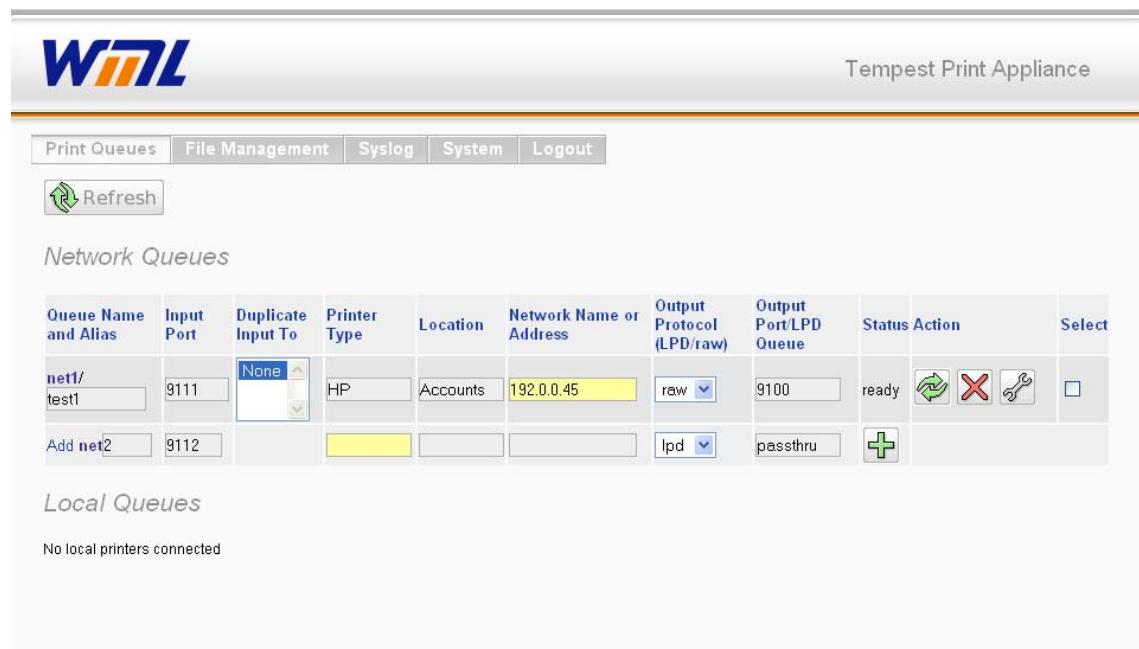
**Network Name or Address:** In this field either tell the Tempest box which network ready printer you want the output to go to: If the printer has a network name that is resolved with a DNS/DHCP server or if the device has a known IP address Example: If you set 192.0.0.45 in this field all output data for that queue will go to the network printer with the IP address of 192.0.0.45. If this field were set to HP1320N

all output data would be sent to the printer with the network name HP1320N. Again click the  button to store the settings.

**Output Protocol (LPD/RAW):** You will need to tell the Tempest DSM which type of data protocol you wish to output to the printer select LPD or RAW from the drop down menu. Click the update button to store .

**Output Port LPD Queue:** you will need to either input the LPD queue name or the RAW port number for the output printer you are sending the data to. Most network ready printers will accept the LPD queue name Passthru which is the default setting, like wise most network ready printers will accept data on RAW port 9100. Click the update button to store the settings .

Example: Settings for Net1 queue may look like this.



Queue Name and Alias	Input Port	Duplicate Input To	Printer Type	Location	Network Name or Address	Output Protocol (LPD/raw)	Output Port/LPD Queue	Status	Action	Select
net1/test1	9111	None	HP	Accounts	192.0.0.45	raw	9100	ready	  	<input type="checkbox"/>
Add net2	9112					lpd	passthru			

**Duplicate Input To (May cause spurious results with this bespoke version of Tempest):** This function will allow you to copy the input to any queue to any of the other queues on the input side of the Tempest . The Default setting is None by holding down Ctrl or Shift you can select multiple queues.

Example if you hold down ctrl on your keyboard and configure queue net1 high light net2 and net3 all data going to queue net1 will also be put onto queues net2 and net3. Click the update as usual to store the setting.

To delete this setting select **None** on the first Queue and click update. 

**Note: Master Data will be the lowest net queue number. You cannot copy input data from queue net2 to queue net1 and net3 you will need to copy the data to a higher number say net3 and net4. Be careful not to set up a data loop, if this happens you will get a constant data stream until the printer runs out of paper.**

 Button will allow you delete the relevant queue or function you will see this symbol on a number of pages in the interface.

 Button allows you drill down to set up specific feature of a particular queue.



Checking this field on multiple queues will allow you to copy all functions of a number of queues or delete a number of queues with one operation. When Select is checked and will appear below queue selection list use to delete selection and use to copy your selection.



Use this button to add a new queue.



Use the printer symbol to print a Tempest status page this can only be done to a USB port.

## Programming Individual Queues.

If you click on field on any queue on Print Queues page the following setup page will be displayed.

The screenshot shows a web-based configuration interface for a 'Tempest Print Appliance'. The top navigation bar includes links for 'Print Queues', 'File Management', 'Syslog', 'System', and 'Logout'. Below this, a sub-menu for 'Configuration for net1' is displayed, with tabs for 'Copies/Output', 'Job Archiving', and 'Queue Info'. The 'Copies/Output' tab is active. A dropdown menu labeled 'Output Tray' is open, showing the option 'Automatic selection' with a small downward arrow indicating it is selected. Below the dropdown is a green 'Update' button with a circular arrow icon.

The Output bin selection for this queue can be selected from the drop down menu. Click Update to select choice.

## Job Archiving Page

If you require the output print file to be archived to a Windows or NFS share please check the Archive jobs check box.

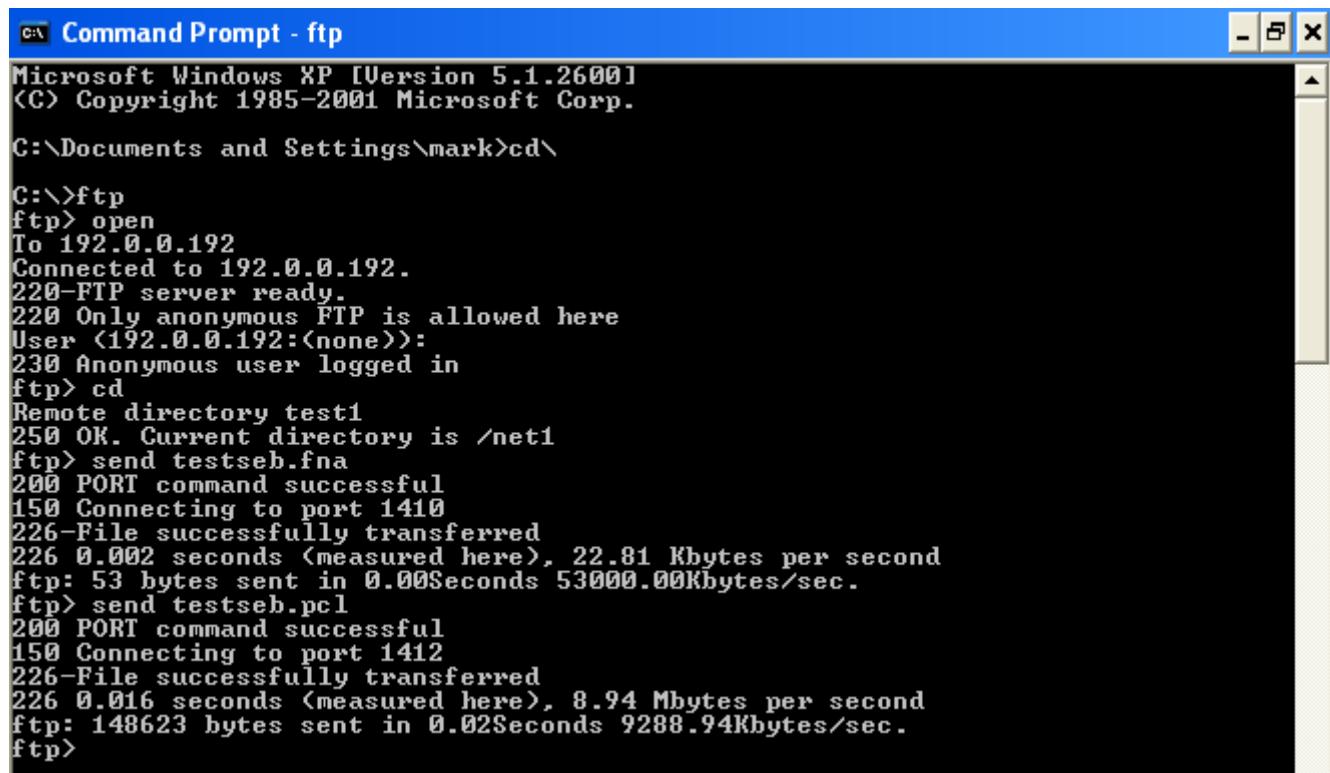
If you would like to convert the output to PDF automatically please check the Convert jobs to PDF check box. **Note: if you leave this box unchecked the unit will archive .PRN file not PDF files.**

Next set up where you would like the Output PDF stored using the drop down menus or alternatively enter the manual path and password by hand.

Click update to save settings.

## Sending Data to the Tempest using FTP.

An example of sending data to the Tempest box using DOS FTP from Windows is shown below.



```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\mark>cd\

C:\>ftp
ftp> open
To 192.0.0.192
Connected to 192.0.0.192.
220-FTP server ready.
220 Only anonymous FTP is allowed here
User (192.0.0.192:<none>):
230 Anonymous user logged in
ftp> cd
Remote directory test1
250 OK. Current directory is /net1
ftp> send testseb.fna
200 PORT command successful
150 Connecting to port 1410
226-File successfully transferred
226 0.002 seconds (measured here), 22.81 Kbytes per second
ftp: 53 bytes sent in 0.00Seconds 53000.00Kbytes/sec.
ftp> send testsebpcl
200 PORT command successful
150 Connecting to port 1412
226-File successfully transferred
226 0.016 seconds (measured here), 8.94 Mbytes per second
ftp: 148623 bytes sent in 0.02Seconds 9288.94Kbytes/sec.
ftp>
```

Open a Dos window

Run FTP FTP>

Open a connection FTP> open

FTP> to IP address of the tempest for example 192.0.0192

FTP>cd change directory on the tempest

Remote directory for example the first queue name is test1 but this could be any name you have set as the queue name on the print queues page of the interface.

You must send two files of the SAME name but with the extensions .FNA and then .PCL

For example FTP> send testseb.fna (note the .FNA file or meta data file must be correctly formatted with the correct structure an example is shown later in this manual.)

Then send the PCL file for example FTP> send testsebpcl (note this file must be a PCL output file.)

The printer will print the two files with the data from the .fna file as the header to the .PCL file.

## .FNA file Format

The .FNA file must follow the format as shown below. Each of the three lines ending in CR/linefeed

